Spreadsheet Simulator

Need to develop a simple batch spreadsheet processor. It must be able to process cells just like in a ordinary spreadsheet, but will use simplified expressions. Each cell may contain:

-   nothing;
-   integer or float number;
-   text labels, which is started with ' symbol;
-   expression, which is started with '=' symbol and may contain numbers, cell references (fig. 1), and simple arithmetic operations ('+', '-', '*', '/') with cell references. *(There are no parenthesis allowed, and all operations have equal priority.)* [1]
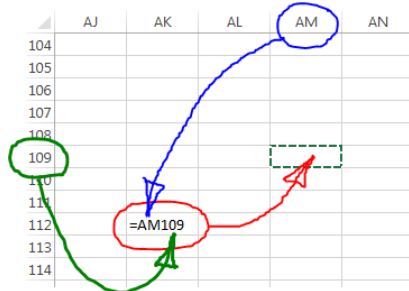

Fig. 1.

Sheet processing rules are:

-   all expressions should be substituted with calculated results;
-   all calculations should be taken with signed integer or float arithmetic;
-   text cells should be evaluated to corresponding text without ' prefix;
-   there are no operations on text labels allowed;
-   in case of any error in cell evaluation resulting cell must contain word with error description started with '#' symbol.

Input and Output

Program should take sheet description with formulas from the standard input, evaluate it, and print resulting table to the standard output. Input data represented as tabulation-separated table.

Sample Input

```
12              =C2         3           'Sample
=A1+B1*C1/5     =A2*B1      =B3-C3      'Spread
'Test           =4-3        5           'Sheet
```

Sample Output

```
12              -4          3           Sample
9.6             -38.4       -4          Spread
Test            1           5           Sheet
```

Solution Guidelines

Production code quality is a must. The shorter and easy to read solution is acceptable. However, the solution should leverage OOD patterns as needed and be easily extendible. Any OO programming language will work to develop the task. It's desirable optimize for performance on huge tables using multithreaded processing.